

SOFTWARE REQUIREMENTS SPECIFICATION DOCUMENT :

1.INTRODUCTION:

1.1 PURPOSE :

To describe the requirements for designing an 8086 ASSEMBLER.

1.2 SCOPE :

This document is meant for the End Users.It describes the basic functioning of the system,by classifying the system into various modules and explaining what each module does.

1.3 DEFINITIONS, ACRONYMS:

Assembler:

Assembler is a program that translates a Assembly language code into Machine language code.

SYMTAB : Symbol table.

LITTAB : Literal table.

1.4 REFERENCE:

1.SYSTEMS PROGRAMMING AND OPERATING SYSTEM BY-DHAMDHARE

2. VB-COMPLETE REFERENCE

2.GENERAL DESCRIPTION:

2.1 PRODUCT FUNCTION OVERVIEW:

The Assembler on providing with a program in Assembly Language generates the corresponding 8086 Machine code, which includes parsing the program, validating the mnemonics, lc processing, and generating the machine code.

There are basically three modules in the Assembler System. They are

1. USER INTERFACE.

2. PASS1.

3. PASS2 .

2.2 INPUTS AND OUTPUTS:

The System has got an Inputfile, Pass1outputfile and Pass2outputfile.

Inputfile : This file contains the Code in 8086 Assembly Language and fed as input to the user Interface Module which passes it to the Pass1 module.

Pass1outputfile : This file contains the Intermediate code generated by the Pass1 module that is fed as input to the Pass2 module.

Pass2outputfile : This file contains the Machine code of the input Program.

2.3 USER CHARACTERISTICS:

The users of this system are both programmers in 8086 assembly language and novice in learning the functioning of assembler.

2.4 GENERAL CONSTRAINT:

The system should run on IBM PC running windows 98 or above.

2.5 ASSUMPTIONS AND DEPENDENCIES:

- The assembly program provided to the assembler is assumed to be confirming with 8086 assembly language instruction set.
- The maximum capacity of the address space provided is 1 MB.

3.FUNCTIONAL REQUIREMENTS:

3.1 PROCESSING:

PASS I :

In pass1 the input program is parsed i.e the Labels, Opcodes and Operands are extracted and accordingly stored in SYMTAB AND LITTAB.Lc processing is also performed in this phase.

INPUTS : Inputfile.

OUTPUTS : Pass1outputfile.

PASS II :

In pass2 the Intermediate code(Pass1outputfile) is taken as Input.The Mnemonics present in the file are validated(taken care by the Error Routine) and the corresponding machine code is generated for each instruction in the input program.The generated machine code is entered in Pass2outputfile.

INPUTS : Pass1outputfile.

OUTPUTS : Pass2outputfile.

4.EXTERNAL INTERFACE REQUIREMENTS:

4.1 USER INTERFACE:

The user is provided with a GUI with appropriate menus and sub menus through which he can create the input file, run the assembler and get the output displayed.

4.2 SYSTEM ENVIRONMENT:

4.2.1 HARDWARE REQUIREMENTS:

System :IBM PC

Processor :Pentium III

RAM :128 MB

Hard disk :20 GB

Floppy disk drive :1.44 MB

4.2.2 SOFTWARE REQUIREMENTS:

Operating system : windows 98 and above.

Package : Visual Basic 6.0
Turbo C compiler

5.PERFORMANCE REQUIREMENTS:

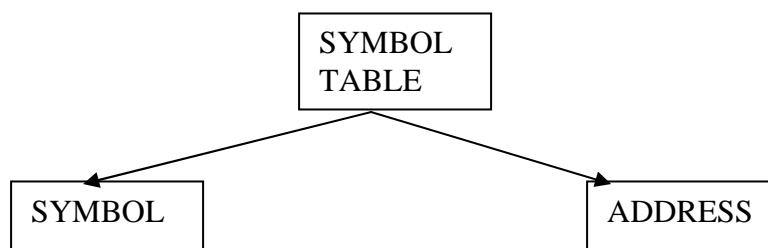
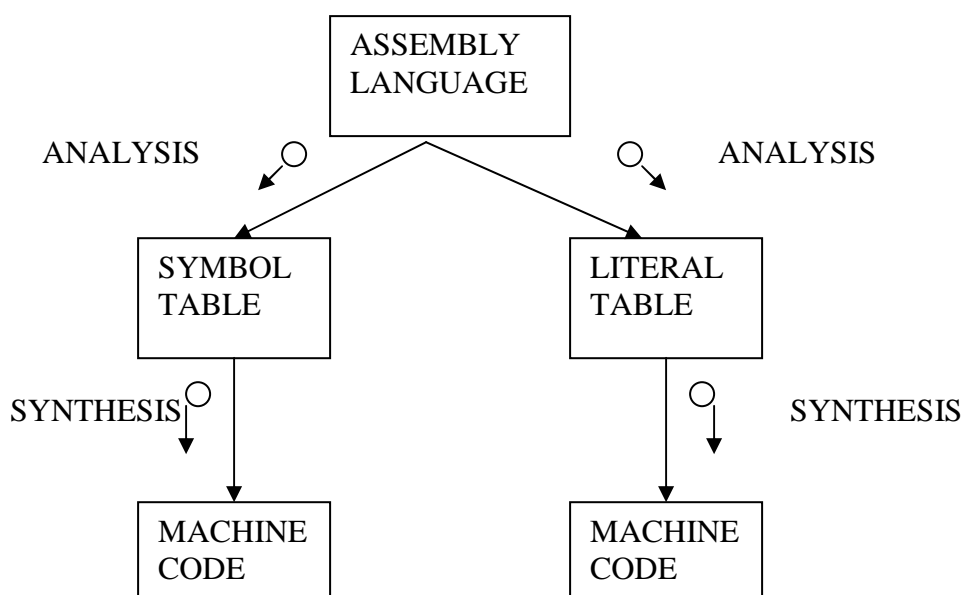
The assembler generates the intermediate code and machine code within 10 seconds.

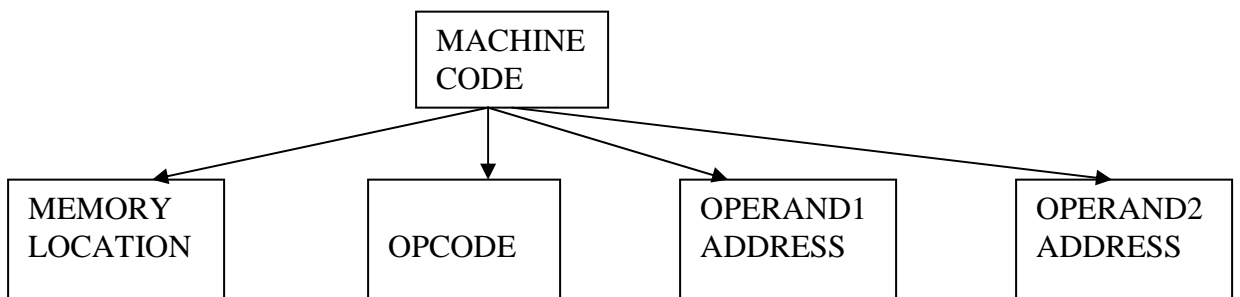
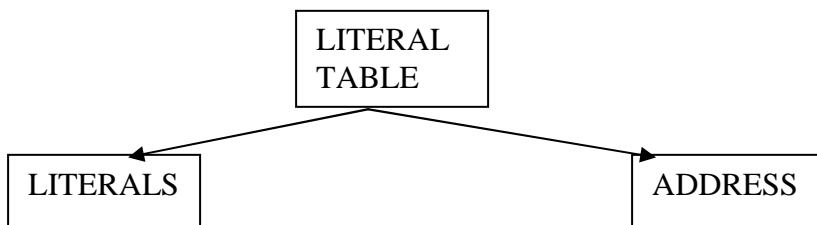
DESIGN DOCUMENT SPECIFICATIONS

1.ARCHITECTURAL DESIGN:

1.1 PROBLEM SPECIFICATION:

1.1 .1 STRUCTURE CHART:





1.1.2 CONTEXT DIAGRAM:

